

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002	
BUDGET ACTIVITY 03 - Advanced Technology Development				PE NUMBER AND TITLE 0603333F Unmanned Air Vehicle Dev/Demo				PROJECT 5067	
COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
5067 Unmanned Combat Air Vehicle Tech Demo	0	20,952	18,000	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>Note: Beginning in FY 2002, ongoing Air Force technical efforts related to the Joint Air Force/Defense Advanced Research Projects Agency Unmanned Combat Air Vehicle (UCAV) program have been consolidated into this PE per Congressional direction. Only the UCAV portions of the following PEs and Projects have been transferred into this PE: PE 0602202F, Project 7184; PE 0603203F, Project 665A; PE 0603211F, Project 4920; PE 0603601F, Project 670A; and PE 0603789F, Project 4072.</p> <p>(U) <u>A. Mission Description</u> This program will develop, demonstrate, and transition advanced unarmed, unmanned aerial vehicle (UAV) and armed UCAV technologies. Flight testing to demonstrate integration of critical technologies, such as autonomous operations, inter-vehicle communications, and multi-vehicle flight operations, will improve the performance and supportability of UAVs and UCAVs.</p> <p>(U) <u>FY 2001 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$11,754 Develop and integrate critical technologies that provide for autonomous operations, inter-vehicle communications, multi-vehicle flight operations. Prepare to conduct an end-to-end demonstration of the mission utility of the UCAV. (U) \$1,850 Complete the development of advanced fusion technology to evaluate the capability of UCAVs to operate in a Command, Control, Communication, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) data-rich environment as part of an integrated Command, Control, and Communications (C3) network. Demonstrate, through flight test, the concept of single distributed control by performing a hand off between a friendly area of operations controller and the area of responsibility controller (i.e., two different ground stations). Demonstrate, through flight test, the software elements for both the air vehicle and Mission Control Station required for the dynamic command and control of multiple vehicles by one controller. (U) \$1,946 Continue the development and demonstration of technologies to support an affordable UCAV unit recurring flyaway goal in a C4ISR data-rich environment as part of an integrated C3 network. Demonstrate multi-vehicle flight operations: escort formations; collision avoidance; auto</p>									
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(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	routing; and dynamic re-tasking among others. Demonstrate multiple re-planned weapons drops.	
(U) \$2,668	Continue to develop and demonstrate both electro-optical and radio frequency technologies for both advanced technologies and complete sensor capabilities on the unmanned combat air vehicle (UCAV).	
(U) \$1,400	Continue human systems technology support by demonstrating remote operator control/interface, that can extend the capability to effectively and affordably perform the 21st century missions of defense suppression and tactical attack.	
(U) \$1,334	Continue to integrate miniature munition concepts with UCAV and support integration and planning of a UCAV flight test.	
(U) \$20,952	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$11,461	Complete development and integration of critical technologies that provide for autonomous operations, inter-vehicle communications, and multi-vehicle flight operation. Complete an end-to-end demonstration of the mission utility of the UCAV.	
(U) \$2,699	Complete the development and demonstration of technologies to support an affordable UCAV unit recurring flyaway goal in a Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) data-rich environment as part of an integrated Command, Control, and Communication network. Demonstrate multi-vehicle flight operations: escort formations; collision avoidance; auto routing; and dynamic re-tasking among others. Demonstrate multiple re-planned weapons drops.	
(U) \$1,897	Complete development and demonstration of both electro-optical and radio frequency technologies for both advanced technologies on the UCAV.	
(U) \$995	Complete human systems technology support by demonstrating remote operator control/interface, that can extend the capability to effectively and affordably perform the 21st century missions of defense suppression and tactical attack.	
(U) \$948	Complete integration of miniature munition concepts with UCAV and complete UCAV flight test with miniature munition concepts.	
(U) \$18,000	Total	
(U) <u>B. Budget Activity Justification</u>		
This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for new unarmed, unmanned aerial vehicles and armed, UCAVs that have C4ISR or combat utility and address warfighter needs.		
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<p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2001</u></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>(U) Appropriated Value</td> <td></td> <td style="text-align: center;">20,952</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td style="text-align: center;">18,000</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td></td> <td style="text-align: center;">20,952</td> <td style="text-align: center;">18,000</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u> Changes to this program since the previous President's Budget are due to Congress directing the consolidation of Air Force Science and Technology funding for the Joint Air Force/Defense Advanced Research Projects Agency Unmanned Combat Air Vehicle program into a single Program Element.</p> <p>(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u></p> <p>(U) PE 0602202F, Human Effectiveness.</p> <p>(U) PE 0602201F, Aerospace Vehicle Technologies.</p> <p>(U) PE 0603203F, Advanced Aerospace Sensors.</p> <p>(U) PE 0603211F, Aerospace Technology Dev/Demo.</p> <p>(U) PE 0603601F, Conventional Weapons.</p> <p>(U) PE 0603789F, C3I Advanced Development.</p> <p>(U) PE 0604731F, Unmanned Combat Air Vehicle.</p> <p>(U) PE 0602702E, Tactical Technology.</p> <p>(U) PE 0603285E, Advanced Aerospace Systems.</p> <p>(U) PE 0603762E, Sensor and Guidance Technology.</p> <p>(U) This project has been coordinated through the Reliance process to harmonize efforts and eliminate duplication.</p>						<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget		0	0		(U) Appropriated Value		20,952			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2002 PBR			18,000		(U) Current Budget Submit/FY 2003 PBR		20,952	18,000	TBD
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<p>(U) <u>E. Acquisition Strategy</u> Not Applicable.</p> <p>(U) <u>F. Schedule Profile</u> (U) Not Applicable.</p>		
<p>Project 5067</p> <p>Page 4 of 4 Pages</p> <p>Exhibit R-2 (PE 0603333F)</p>		